IN THE SPECIFICATION

Please substitute the following replacement paragraphs for the previously-pending versions of such paragraphs. The replacement paragraphs are marked-up to show changes from the previously-pending versions thereof.

Replace the title beginning at page 1, line 4 with the following replacement title:

~~Polymer Libraries on a Substrate,~~ Method of Forming Polymer Libraries on a Substrate and Characterization Methods with Same.

Replace the paragraph beginning at page 1, line 9 with the following replacement paragraph:

This application claims the benefit under 35 U.S.C. §120 and is a continuation-in-part of co-pending U.S. Patent Application No. 09/567,598, filed May 10, 2000, which claims the benefit of U.S. Patent Application No. 09/156,827 filed September 18, 1998, now abandoned, both of which are incorporated herein by reference.

Replace the paragraph beginning at page 6, line 22 with the following replacement paragraph:

Preferably, regions are created on a substrate by depositing a wettable, preferably unsilanizable, material onto the substrate at defined locations, typically via a template. In a preferred embodiment the template is made of a metal, such as stainless steel with holes drilled into the template to provide the desired pattern on the template. The template is held to the substrate using techniques known to those skilled in the art, such as by magnets on the back of the substrate or clamps around the edges. For "magnetic clamping" the template should be made of a magnetic material, such as an appropriate grade of stainless steel. The wettable, preferably unsilanizable, material may be deposited by any means known in the art, such as solvent deposition, vapor-deposition techniques or thermal deposition techniques and the like. Techniques for depositing the wettable, preferably unsilanizable, material depend on the nature of the wettable, preferably unsilanizable, material and, possibly, the thickness desired. Deposition of the wettable, preferably unsilanizable, material may be accomplished by rechniques known to those of skill in the art, such as those disclosed in U.S. Patent 5,9~~0~~85,356, which is incorporated by reference herein. The wettable, preferably unsilanizable, material is preferably present substantially flat within a region and should be present at as uniform a

thickness as practical. Typically the wettable, preferably unsilanized, material is from 0.1 to 1000 μm thick, preferably from 0.1 to 500 μm thick, preferably 0.1 to 100 μm, preferably 0.1 to 10 μm, more preferably 100 to 1500Å.

Replace the paragraph beginning at page 9, line 17 with the following replacement paragraph:

As used herein, the phrase "represented by the formula"" is not intended to be limiting and is used in the same way that "comprising" is commonly used. The term "independently selected" is used herein to indicate that the R groups, can be identical or different. A named R group will generally have the structure that is recognized in the art as corresponding to R groups having that name. These definitions are intended to supplement and illustrate, not preclude, the definitions known to those of skill in the art.

Replace the paragraph beginning at page 9, line 24 with the following replacement paragraph:

The term "alkyl"" is used herein to refer to a branched or unbranched, saturated or unsaturated acyclic hydrocarbon radical. Suitable alkyl radicals include, for example, methyl, ethyl, n-propyl, i-propyl, 2-propenyl (or allyl), vinyl, n-butyl, t-butyl, i-butyl (or 2-methylpropyl), etc. In particular embodiments, alkyls have between 1 and 200 carbon atoms, between 1 and 50 carbon atoms or between 1 and 20 carbon atoms.

Replace the paragraph beginning at page 9, line 30 with the following replacement paragraph:

"Substituted alkyl"" refers to an alkyl as just described in which one or more hydrogen atom to any carbon of the alkyl is replaced by another group such as a halogen, aryl, substituted aryl, cycloalkyl, substituted cycloalkyl, and combinations thereof. Suitable substituted alkyls include, for example, benzyl, trifluoromethyl and the like.

Replace the paragraph beginning at page 10, line 9 with the following replacement paragraph:

The term "heteroalkyl"" refers to an alkyl as described above in which one or more ~~hydrogen~~ carbon atoms ~~to any carbon~~ of the alkyl is replaced by a heteroatom selected from the group consisting of N, O, P, B, S, Si, Sb, Al, Sn, As, Se and Ge. The bond between the carbon atom and the heteroatom may be saturated or unsaturated. Thus, an alkyl substituted with a heterocycloalkyl, substituted heterocycloalkyl, heteroaryl, substituted heteroaryl, alkoxy,

aryloxy, boryl, phosphino, amino, silyl, thio, or seleno is within the scope of the term heteroalkyl. Suitable heteroalkyls include cyano, benzoyl, 2-pyridyl, 2-furyl and the like.

Replace the paragraph beginning at page 10, line 17 with the following replacement paragraph:

The term "cycloalkyl" is used herein to refer to a saturated or unsaturated cyclic non-aromatic hydrocarbon radical having a single ring or multiple condensed rings. Suitable cycloalkyl radicals include, for example, cyclopentyl, cyclohexyl, cyclooctenyl, bicyclooctyl, etc. In particular embodiments, cycloalkyls have between 3 and 200 carbon atoms, between 3 and 50 carbon atoms or between 3 and 20 carbon atoms.

Replace the paragraph beginning at page 10, line 23 with the following replacement paragraph:

"Substituted cycloalkyl" refers to cycloalkyl as just described including in which one or more hydrogen atom to any carbon of the cycloalkyl is replaced by another group such as a halogen, alkyl, substituted alkyl, aryl, substituted aryl, cycloalkyl, substituted cycloalkyl, heterocycloalkyl, substituted heterocycloalkyl, heteroaryl, substituted heteroaryl, alkoxy, aryloxy, boryl, phosphino, amino, silyl, thio, seleno and combinations thereof. Suitable substituted cycloalkyl radicals include, for example, 4-dimethylaminocyclohexyl, 4,5-dibromocyclohept-4-enyl, and the like.

Replace the paragraph beginning at page 10, line 31 with the following replacement paragraph:

The term "heterocycloalkyl" is used herein to refer to a cycloalkyl radical as described, but in which one or more or all carbon atoms of the saturated or unsaturated cyclic radical are replaced by a heteroatom such as nitrogen, phosphorous, oxygen, sulfur, silicon, germanium, selenium, or boron. Suitable heterocycloalkyls include, for example, piperazinyl, morpholinyl, tetrahydropyranyl, tetrahydrofuranyl, piperidinyl, pyrrolidinyl, oxazolinyl and the like.

Replace the paragraph beginning at page 11, line 4 with the following replacement paragraph:

"Substituted heterocycloalkyl" refers to heterocycloalkyl as just described including in which one or more hydrogen atom to any atom of the heterocycloalkyl is replaced by another group such as a halogen, alkyl, substituted alkyl, aryl, substituted aryl, heteroaryl, substituted heteroaryl, alkoxy, aryloxy, boryl, phosphino, amino, silyl, thio, seleno and combinations

thereof. Suitable substituted heterocycloalkyl radicals include, for example, N-methylpiperazinyl, 3-dimethylaminomorpholinyl and the like.

Replace the paragraph beginning at page 11, line 11 with the following replacement paragraph:

The term "aryl"" is used herein to refer to an aromatic substituent which may be a single aromatic ring or multiple aromatic rings which are fused together, linked covalently, or linked to a common group such as a methylene or ethylene moiety. The common linking group may also be a carbonyl as in benzophenone or oxygen as in diphenylether or nitrogen in diphenylamine. The aromatic ring(s) may include phenyl, naphthyl, biphenyl, diphenylether, diphenylamine and benzophenone among others. In particular embodiments, aryls have between 1 and 200 carbon atoms, between 1 and 50 carbon atoms or between 1 and 20 carbon atoms.

Replace the paragraph beginning at page 11, line 20 with the following replacement paragraph:

"Substituted aryl"" refers to aryl as just described in which one or more hydrogen atom to any carbon is replaced by one or more functional groups such as alkyl, substituted alkyl, cycloalkyl, substituted cycloalkyl, heterocycloalkyl, substituted heterocycloalkyl, halogen, alkylhalos (e.g., CF_3), hydroxy, amino, phosphido, alkoxy, amino, thio, nitro, and both saturated and unsaturated cyclic hydrocarbons which are fused to the aromatic ring(s), linked covalently or linked to a common group such as a methylene or ethylene moiety. The linking group may also be a carbonyl such as in cyclohexyl phenyl ketone.

Replace the paragraph beginning at page 11, line 28 with the following replacement paragraph:

The term "heteroaryl"" as used herein refers to aromatic rings in which one or more carbon atoms of the aromatic ring(s) are replaced by a heteroatom(s) such as nitrogen, oxygen, boron, selenium, phosphorus, silicon or sulfur. Heteroaryl refers to structures that may be a single aromatic ring, multiple aromatic ring(s), or one or more aromatic rings coupled to one or more non-aromatic ring(s). In structures having multiple rings, the rings can be fused together, linked covalently, or linked to a common group such as a methylene or ethylene moiety. The common linking group may also be a carbonyl as in phenyl pyridyl ketone. As used herein, rings such as thiophene, pyridine, isoxazole, phthalimide, pyrazole, indole, furan, etc. or benzo-fused analogues of these rings are defined by the term "heteroaryl."

Replace the paragraph beginning at page 12, line 5 with the following replacement paragraph:

"Substituted heteroaryl" refers to heteroaryl as just described including in which one or more hydrogen atoms to any atom of the heteroaryl moiety is replaced by another group such as a halogen, alkyl, substituted alkyl, aryl, substituted aryl, heteroaryl, substituted heteroaryl, alkoxy, aryloxy, boryl, phosphino, amino, silyl, thio, seleno and combinations thereof. Suitable substituted heteroaryl radicals include, for example, 4-N,N-dimethylaminopyridine.

Replace the paragraph beginning at page 12, line 12 with the following replacement paragraph:

The term "alkoxy" is used herein to refer to the $-OZ^1$ radical, where Z^1 is selected from the group consisting of alkyl, substituted alkyl, cycloalkyl, substituted cycloalkyl, heterocylcoalkyl, substituted heterocycloalkyl, silyl groups and combinations thereof as described herein. Suitable alkoxy radicals include, for example, methoxy, ethoxy, benzyloxy, t-butoxy, etc. A related term is "aryloxy" where Z^1 is selected from the group consisting of aryl, substituted aryl, heteroaryl, substituted heteroaryl, and combinations thereof. Examples of suitable aryloxy radicals include phenoxy, substituted phenoxy, 2-pyridinoxy, 8-quinalinoxy and the like.

Replace the paragraph beginning at page 12, line 21 with the following replacement paragraph:

As used herein the term "silyl" refers to the $-SiZ^1Z^2Z^3$ radical, where each of Z^1, Z^2, and Z^3 is independently selected from the group consisting of alkyl, substituted alkyl, cycloalkyl, heterocycloalkyl, heterocyclic, aryl, substituted aryl, heteroaryl, substituted heteroaryl, alkoxy, aryloxy, amino, silyl and combinations thereof.

Replace the paragraph beginning at page 12, line 26 with the following replacement paragraph:

As used herein the term "boryl" refers to the $-BZ^1Z^2$ group, where each of Z^1 and Z^2 is independently selected from the group consisting of alkyl, substituted alkyl, cycloalkyl, heterocycloalkyl, heterocyclic, aryl, substituted aryl, heteroaryl, substituted heteroaryl, alkoxy, aryloxy, amino, silyl and combinations thereof.

Replace the paragraph beginning at page 12, line 31 with the following replacement paragraph:

As used herein, the term "phosphino" refers to the group $-PZ^1Z^2$, where each of Z^1 and Z^2 is independently selected from the group consisting of hydrogen, substituted or unsubstituted alkyl, cycloalkyl, heterocycloalkyl, heterocyclic, aryl, heteroaryl, silyl, alkoxy, aryloxy, amino and combinations thereof.

Replace the paragraph beginning at page 13, line 2 with the following replacement paragraph:

The term "amino" is used herein to refer to the group $-NZ^1Z^2$, where each of Z^1 and Z^2 is independently selected from the group consisting of hydrogen; alkyl, substituted alkyl, cycloalkyl, substituted cycloalkyl, heterocycloalkyl, substituted heterocycloalkyl, aryl, substituted aryl, heteroaryl, substituted heteroaryl, alkoxy, aryloxy, silyl and combinations thereof.

Replace the paragraph beginning at page 13, line 8 with the following replacement paragraph:

The term "thio" is used herein to refer to the group $-SZ^1$, where Z^1 is selected from the group consisting of hydrogen; alkyl, substituted alkyl, cycloalkyl, substituted cycloalkyl, heterocycloalkyl, substituted heterocycloalkyl, aryl, substituted aryl, heteroaryl, substituted heteroaryl, alkoxy, aryloxy, silyl and combinations thereof.

Replace the paragraph beginning at page 13, line 13 with the following replacement paragraph:

The term "seleno" is used herein to refer to the group $-SeZ^1$, where Z^1 is selected from the group consisting of hydrogen; alkyl, substituted alkyl, cycloalkyl, substituted cycloalkyl, heterocycloalkyl, substituted heterocycloalkyl, aryl, substituted aryl, heteroaryl, substituted heteroaryl, alkoxy, aryloxy, silyl and combinations thereof.

Replace the paragraph beginning at page 13, line 18 with the following replacement paragraph:

The term "saturated" refers to lack of double and triple bonds between atoms of a radical group such as ethyl, cyclohexyl, pyrrolidinyl, and the like.

Replace the paragraph beginning at page 13, line 21 with the following replacement paragraph:

The term "unsaturated" refers to the presence one or more double and triple bonds between atoms of a radical group such as vinyl, acetylenyl, oxazolinyl, cyclohexenyl, acetyl and

the like.

Replace the paragraph beginning at page 22, line 26 with the following replacement paragraph:

Preferred embodiments for the high-throughput characterization of polymer materials confined within such a substrate include the spectroscopic techniques Reflectance Infrared Spectroscopy, Transmission Infrared Spectroscopy, Infrared Emission Spectroscopy, UV-Visible Spectroscopy, Raman Spectroscopy, X-ray Fluorescence Spectroscopy, X-Ray Scattering, and X-ray Diffraction. In another embodiment, this invention can be practiced with the Apparatus for Rapid Screening of Array Based Materials Characterization as described in U.S. Patent No. 6,535,824~~serial Number 09/458,398 filed December 10, 1999~~, which is incorporated by reference herein.

[NO FURTHER AMENDMENTS THIS PAGE]